June 3, 2003

Elmer Rauckman, Ph.D DABT
Toxicology and Regulatory Affairs
The Propargyl Alcohol Consortium
1201 Anise Court
Freeburg, IL 622243

Dear Dr. Rauckman:

The Office of Pollution Prevention and Toxics is transmitting EPA's comments on the robust summaries and test plan for Propargyl Alcohol posted on the ChemRTK HPV Challenge Program Web site on January 31, 2003. I commend the Propargyl Alcohol Consortium for its commitment to the HPV Challenge Program.

EPA reviews test plans and robust summaries to determine whether the reported data and test plans will provide the data necessary to adequately characterize each SIDS endpoint. On its Challenge Web site, EPA has provided guidance for determining the adequacy of data and preparing test plans used to prioritize chemicals for further work.

EPA will post this letter and the enclosed comments on the HPV Challenge Web site within the next few days. As noted in the comments, we ask that the Propargyl Alcohol Consortium advise the Agency, within 60 days of this posting on the Web site, of any modifications to its submission.

If you have any questions about this response, please contact Richard Hefter, Chief of the HPV Chemicals Branch, at 202-564-7649. Submit questions about the HPV Challenge Program through the "Contact Us" link on the HPV Challenge Program Web site pages or through the TSCA Assistance Information Service (TSCA Hotline) at (202) 554-1404. The TSCA Hotline can also be reached by e-mail at tsca-hotline@epa.gov.

I thank you for your submission and look forward to your continued participation in the HPV Challenge Program.

Sincerely,

-S-

Oscar Hernandez, Director
Risk Assessment Division

Enclosure

cc: W. Penberthy
M. E. Weber

EPA Comments on Chemical RTK HPV Challenge Submission:
Propargyl Alcohol

Summary of EPA Comments

The sponsor, the Propargyl Alcohol Consortium, submitted a test plan and robust summaries to EPA for propargyl alcohol (CAS No. 107-19-7) dated December 30, 2002. EPA posted the submission on the ChemRTK HPV Challenge Web site on January 31, 2003.

EPA has reviewed this submission and has reached the following conclusions:

General. The submission uses several different names for the consortium. The cover e-message refers to "the BPPD Consortium," the cover letter subject field states "Registered with EPA as BPPB Consortium," and the first paragraph of the cover letter states "On behalf of the Propargyl Alcohol Consortium . . . "

1. Physicochemical Properties and Environmental Fate. Adequate data are available for all endpoints except biodegradation. The submitter needs to conduct a ready biodegradation test or submit additional information.

2. Health Effects. Adequate data are available for the acute, repeated-dose, and genetic toxicity endpoints for the purposes of the HPV Challenge Program. EPA agrees with the submitter's plan to conduct a reproduction/developmental toxicity screening test to address these endpoints. In addition, the submitter needs to address a few deficiencies in the robust summaries.

3. Ecological Effects. Adequate data are available for acute toxicity to fish for the purposes of the HPV Challenge Program. However, the submitted data for invertebrates and algae are inadequate. Testing is needed for these endpoints.

EPA requests that the submitter advise the Agency within 60 days of any modifications to its submission.

EPA Comments on the Propargyl Alcohol Challenge Submission

Test Plan

Physicochemical Properties (melting point, boiling point, vapor pressure, partition coefficient and water solubility)

Adequate data are available for all SIDS-related endpoints.

Environmental Fate (photodegradation, stability in water, biodegradation, fugacity)

Biodegradation. The submitter indicates that adequate data for this endpoint are available. EPA disagrees. The submitter provides one experimental study that suggests propargyl alcohol is biodegradable in the environment. However, this study does not follow GLP or appear to have been conducted according to standard test guidelines, and it cannot be determined if this was an inherent or ready biodegradation study. Missing information includes test substance purity, inoculum, adaptation

period (if any), inoculum period, analysis method, and test temperature. The submitter also estimates the biodegradation rate using BIOWIN, but estimates are not sufficient for this endpoint. However, additional data are readily available for this substance. EPA located five studies in the literature that address this endpoint (Dore et al 1975; Dow Chem 1986; Petrolite 1986; Loehr 1989; CERIJ 2003). The submitter needs to submit the appropriate data in robust summary format for EPA to determine data adequacy or conduct a ready biodegradation study using the OECD TG 301 series.

Health Effects (acute toxicity, repeated-dose toxicity, genetic toxicity, and reproductive/developmental toxicity)

Adequate data are available for the acute, repeated-dose, and genetic toxicity endpoints for the purposes of the HPV Challenge Program. No developmental toxicity data are available. EPA agrees with the submitter's plan to conduct a reproduction/developmental toxicity screening test (OECD TG 421) to address this endpoint. In addition, the submitter needs to address deficiencies in the robust summaries.

Reproductive Toxicity. The submitter noted that data specifically on reproduction toxicity are not available but that histopathological evaluation from the submitted subchronic toxicity studies did not indicate adverse effects on the reproductive organs. The proposed OECD TG 421 will further address this endpoint.

Ecological Effects (fish, invertebrates, and algae)

Adequate data are available for acute toxicity to fish.

The submitted data for invertebrates and algae are inadequate. The studies for invertebrates and algae were performed using a static method with no analytical monitoring. The chemical's volatility during the tests was not adequately addressed. In addition, the durations of these tests are significantly different than recommended (24 hours vs. 48 hours for daphnia) and (8 days vs. 96 hours for algae). EPA recommends acute toxicity testing for invertebrates and algae using mean measured concentrations.

Specific Comments on the Robust Summaries

Physicochemical Properties

Solubility. EPA identified a reference supporting a water solubility of 1,000 g/L. (Yalkowsky and Dannenfelser, 1992). The submitter should consider adding this to the robust summary.

Health Effects

Repeated-Dose Toxicity. A robust summary for a 90-day NTP inhalation study in rats did not completely describe the exposure protocol (number of hours of exposure per day per week).

Genetic Toxicity. A robust summary for a negative reverse mutation assay in five strains of *Salmonella typhimurium* lacked a full reference citation and information on GLP status of the study.

Followup Activity

EPA requests that the submitter advise the Agency within 60 days of any modifications to its submission.

References

CERIJ. Chemicals Evaluation and Research Institute, Japan web page at http://www.cerij.or.jp/ceri_en/index_e4.shtml (March 31, 2003).

Dore M, Brunet N, Legube B. 1975. Participation of Various Organic Compounds in the Evaluation of Global Pollution Criteria. Trib Cebedeau 28:3-11.

Dow Chem 1986. Summary of Environmental Data for Propargyl Alcohol with Cover Letter Dated 04/10/86. US EPA/OPTS Public OTS0510180/868600028.

Loehr RC. Treatability Potential for EPA Listed Hazardous Wastes in Soil. USEPA. Robert S. Kerr Environ Res Lab ADA, OK EPA/600/2-89/011(1989).

Petrolite 1986. Biochemical Oxygen Demand of AK-14 (Mixture containing Propargyl alcohol) with Cover Letter Dated 05/06/96. US EPA/OPTS Public OTS0510365/878216437.

Yalkowsky, S.H. and Dannenfelser, R.M. 1992. The AQUASOL DATABASE of Aqueous Solubility. Ver 5. Tuscon, AZ: Univ. AZ, College of Pharmacy.